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CHALLENGES AND OPPORTUNITIES OF INTEROPERABILITY FOR OPEN ACCESS REPOSITORIES



Eloy Rodrigues (Presented by Prof. Xiaolin
Zhang)

Beijing, October 22, 2012

China Open Access Week

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Open Access: Implementing Strategies, Best Practices, and Future Challenges 开放获取：实施战略·最佳实践·未来挑战

October 25th - 27th

2010年10月25日 - 27日

National Science Foundation

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主办：





Agenda

- Introduction– Repositories, Interoperability, and e-infrastructures for science and research.
- Confederation of Open Access Repositories (COAR) and Interoperability
 - COAR Working Group on Interoperability
 - COAR Interoperability Briefing Paper
 - COAR Interoperability Roadmap
- Final Remarks





INTRODUCTION

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Our repositories may be (or contain)
treasures of our institutions...



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But they should not be treasure islands...



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The value of repositories



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- Each individual repository is very valuable for each institution or community;
- But each individual repository is of limited value for research...

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The value of repositories



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The real value of repositories lies in the potential to interconnect them to create a network of repositories, a network that can provide unified access to research outputs and be (re-) used by machines and researchers. However, in order to achieve this potential, we need interoperability.

(The Case for Interoperability for Open Access Repositories
– COAR Briefing Paper)



The value of repositories



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- But to fulfill this potential to create a unified body of scholarly materials, we need a “technical glue” that makes this integration possible ...

Interoperability



Interoperability



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- Interoperability is the ability for systems to communicate with each other and pass information, metadata, and digital objects between each other back and forth in a usable format .

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Interoperability to...

- **CONNECT**
 - Between different Repositories
 - Repositories with other information systems (CRIS, LMS, VRE, VLE, etc.)
 - And transfer metadata and/or digital objects
- **CREATE NEW SERVICES AND TOOLS**
 - “On top” of repositories, based on contents aggregated from repositories...
 - using today’s computational power to datamine and process them, and generate new information and knowledge





Research in the digital world is global, collaborative, networked, distributed... How can repositories allow researchers to use open publications and data on their work?



OA Repositories around the globe, need to operate similar policies, terms & conditions, data schemas etc. to build a (seamless) content resource based on a worldwide repository network



Riding the wave

How Europe can gain from the
rising tide of scientific data
a vision for 2030

Report of the High Level Expert Group on Scientific Data

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Vision for 2030



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“Our vision is a scientific e-Infrastructure that supports seamless access, use, re-use and trust of data. In a sense, the physical and technical infrastructure becomes invisible and the data themselves become the infrastructure – a valuable asset, on which science, technology, the economy and society can advance.”



High-Level Group on Scientific Data

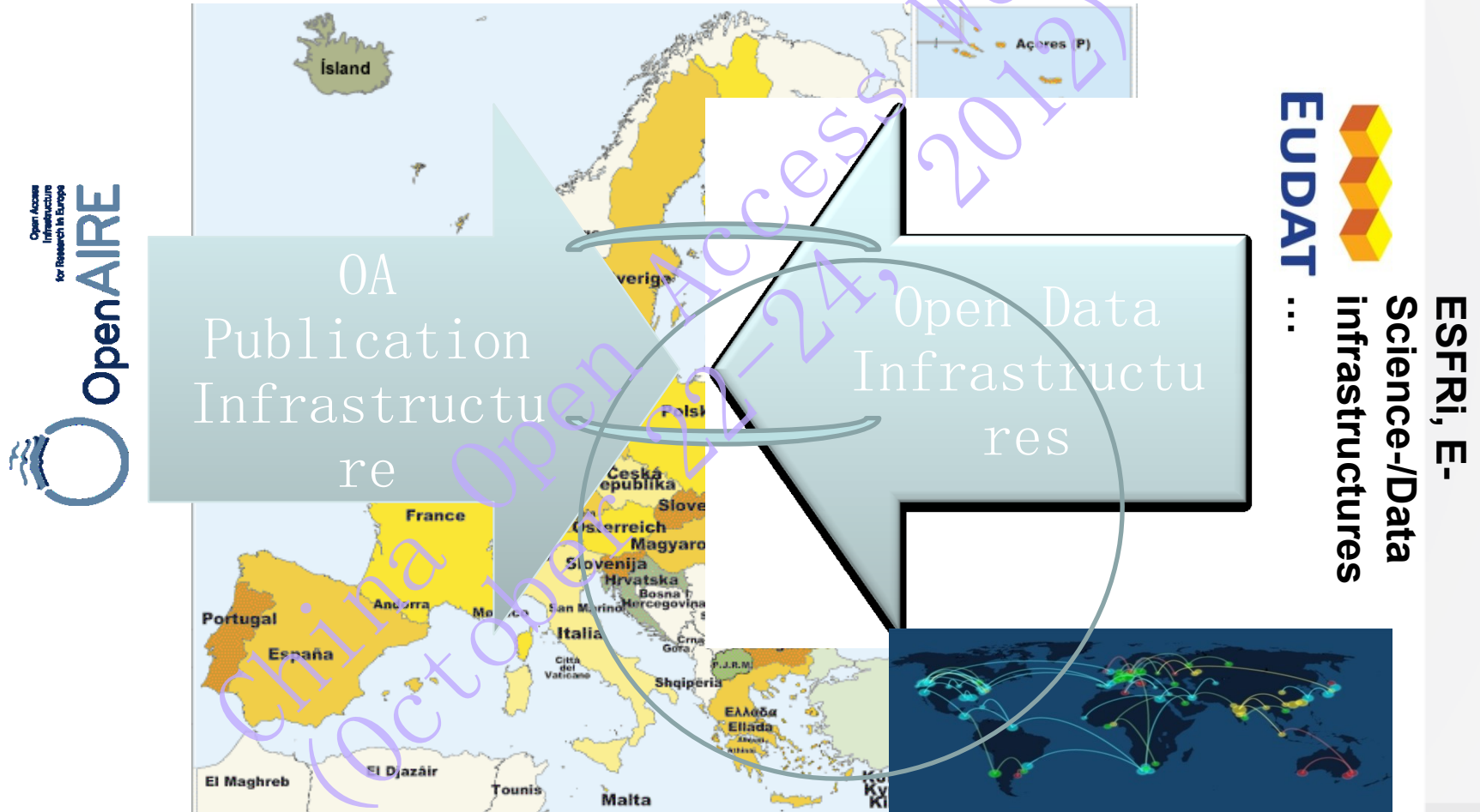
“Riding the Wave: how Europe can gain from the raising tide of scientific data”





The European Vision

1. European Level Open Access Knowledge Infrastructure



2. Link to a global Knowledge Infrastructure



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COAR AND INTEROPERABILITY





COAR and Interoperability

- Interoperability was always one of the strategic issues for COAR
- A Working Group on Interoperability was established
- COAR Strategic directions 2012-2015
 3. To define and promote interoperability, standards, and infrastructure policies



Charge of Working Group 2:

- *Facilitate the discussion on interoperability among OA repositories and as part of a wider e-Infrastructure*

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Working Group 2: 2011-2012

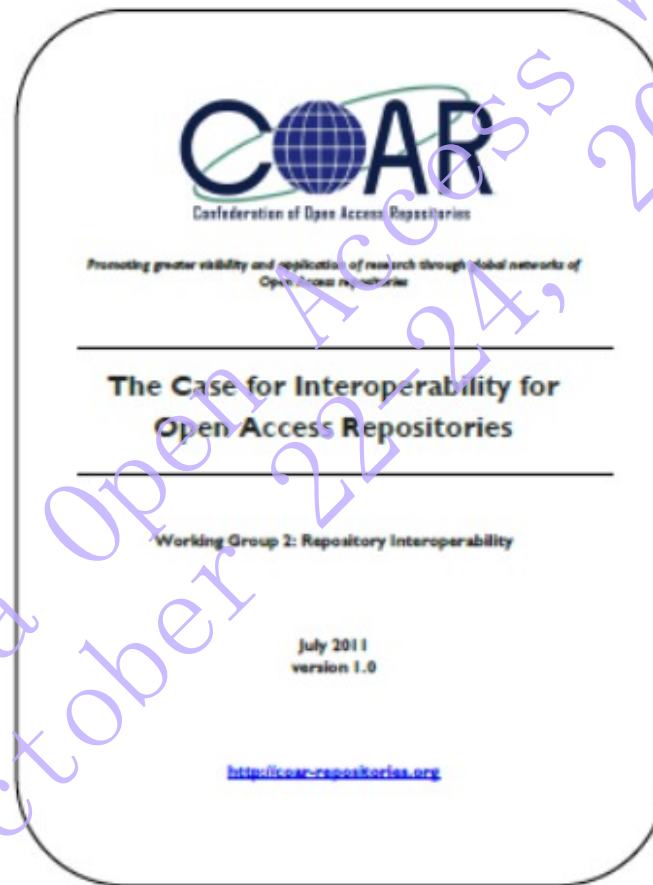
Objective: To facilitate a discussion on interoperability among Open Access repositories.

- Output 1: Producing a briefing paper providing an overview of interoperability for OA repositories.
 - [“The Case for Interoperability for Open Access Repositories,”](#) available in July 2011
 - [Spanish Translation, by COAR member,](#) available January 2012

The Case for Interoperability for Open Access Repositories



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<http://www.coar-repositories.org/files/A-Case-for-Interoperability-Final-Version.pdf>



The Case for Interoperability for Open Access Repositories



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Technical Challenges:

- New content types
- Software and systems
- New service layers
- Usage Data
- Consistent identification and terminology
- Language Challenges

Administrative and Organizational Challenges:

- Global context
- Long-term sustainability of guidelines and standards
- Support for implementing guidelines



Working Group 2: 2011–2012

- Output 2: Stimulate an open discussion among COAR members and the broader OA/repository community to gather input about current and anticipated challenges related to global interoperability for OA repositories.

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Continued Work – 2012-2013

- Produce the **COAR Roadmap for Open Access Repository Interoperability**
 - Present an overview of the current and emerging services that interoperability initiatives make possible
 - Present interoperability standards/protocols in connection to these services
 - Provide guidance and recommendations on future directions and solutions for enhancing repository interoperability in the context of OA and e-infrastructure



The COAR Roadmap for Open Access Repository Interoperability



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Intended Audience: Institutions, and repository managers, operating at different points in terms of infrastructure, resources, and institutional support

- For institutions new to OA and repositories: Roadmap will provide guidance in getting started – providing ideas on the types of services repositories can offer
 - Which interoperability standards and protocols are necessary to implement in order to provide those services
- For institutions and repository managers already involved in OA and repositories: ideas for additional functionality, services possible to provide



Outline of the Roadmap

- Part I – State of Open Access Repository Interoperability
– October 2012
- Part 2 – Future directions – First Quarter 2013??

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Outline of the State of Open Access Repository Interoperability

- Section I - Introduction and Background
Information: general overview of the interoperability landscape, identifying main challenges, current state and emerging areas.
- Section 2 - Description of current standards/guidelines/projects
 - a) Description - Information about specific interoperability guidelines and standards referenced in the roadmap. Each item summarized in a consistent way.
 - b) Applications : concrete examples of services or applications that have been developed using the standards/guidelines/projects.
 - c) Additional resources for further readings, particularly focusing on explanatory texts and other useful information.

Current State of Open Access Repository Interoperability



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The report covers:

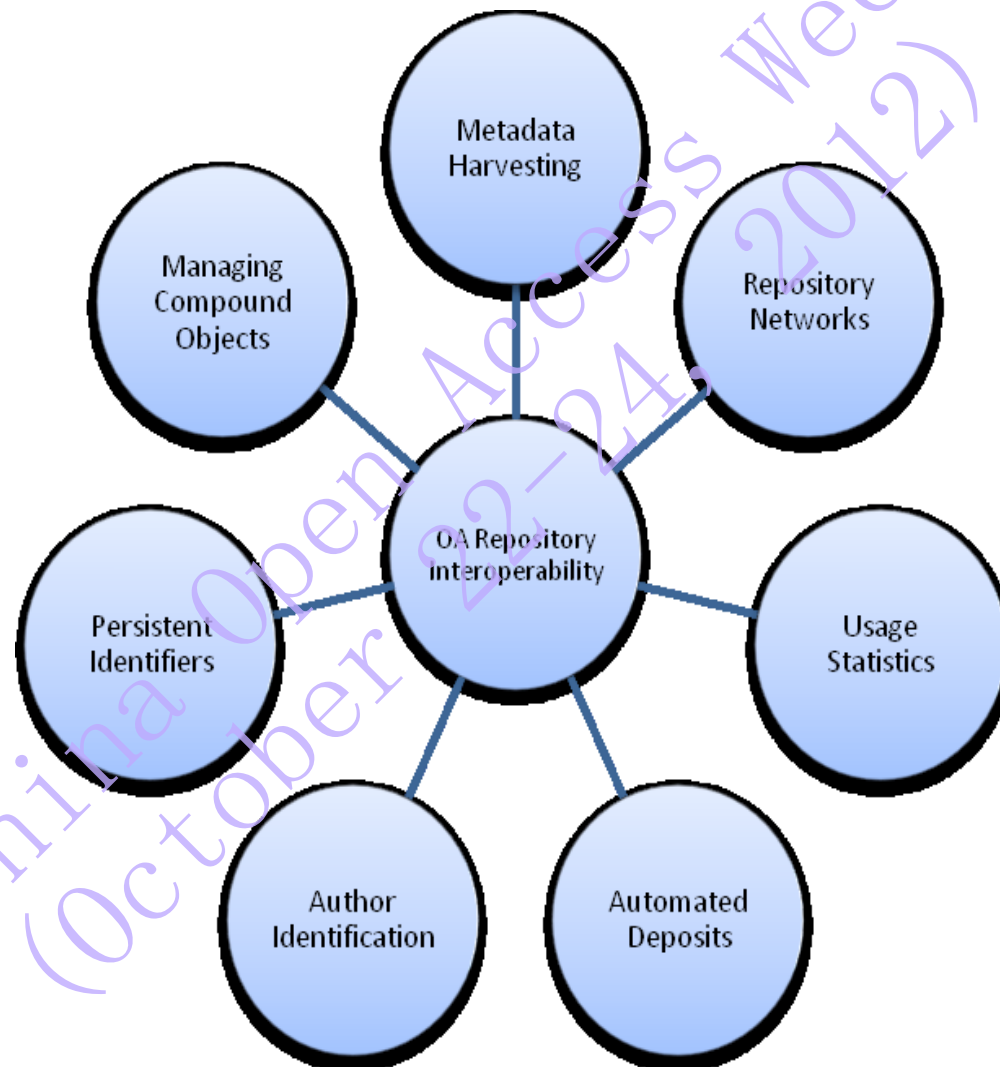
- 7 areas of focus for current interoperability initiatives
- 2 emerging areas
- Overviews of 19 key Open Access repository interoperability initiatives



Areas of Repository Interoperability



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Areas and Associated Initiatives



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Areas	Associated Repository Initiatives
Metadata Harvesting	OAI-PMH
Repository Networks	DRIVER OpenAIRE UK RepositoryNet+
Usage Statistics	COUNTER KE Usage Statistics OA-Statistik PIRUS/IRUS-UK SURE
Cross-System Content Transfer	SWORD Open Access Repository Junction CRIS-OAR Metadata Interoperability
Author Identification	AuthorClaim ORCID
Persistent Identifiers	PersID DOI Handle System DataCite
Managing Compound Objects	OAI-ORE



Example of In-Depth Coverage of an Initiative



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AuthorClaim authorclaim.org

AuthorClaim

AuthorClaim aims to link scholars with records of the works they have produced.

Category: Author identification

Geographic Focus: Global

Current status: currently maintained; building-up phase

Sponsoring Organization: The development of the software for the service was funded by an Open Society Institute grant to the ACIS project.

Examples of Implementations

<http://authors.repec.org/>

<http://authorclaim.org>

<http://citec.repec.org/> (Citations in Economics): citation profile of authors registered in RePEc Author Service (RAS)



CRIS-OAR

<http://bit.ly/cris-oar>

CRIS-OAR aims to increase the interoperability between CRIS and repositories through metadata exchange

Area: Cross-System Content Transfer
Geographic Focus: Europe

Current status: project has been completed

Sponsoring Organization: Knowledge Exchange

Other Projects in this Area:

- OA-RJ
- SWORD
- UK RepositoryNet+

Knowledge Exchange
CRIS-OAR interoperability project
publication metadata



FINAL REMARKS

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Challenges for repositories



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- Fulfill their potential to support Open Access and be an essential part of the e-infrastructures for science and research.

In the present time, that means:

Maintain the focus on getting more Open Access content (journal articles, etc.) into repositories

Using all the opportunities to connect to, interoperate with, or embed in other systems (institutional or disciplinary) or components of e-infrastructures for research.



Challenges for repositories



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谢谢

THANKS !

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